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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/614,921 | 07/09/2003 | Takahisa Hatakeyama | 826.1880 | 7868 |
| 21171 | 7590 | 07/13/2006 | | |
| STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005 | | | EXAMINER SHERR, CRISTINA O | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3621 | |

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,921

Applicant(s)

HATAKEYAMA ET AL.

Examiner

Cristina Owen Sherr

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 2,7,13-16 and 18-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8-12 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07/09/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. This communication is in response to applicant's amendment filed April 20, 2006.

Election/Restrictions

2. Claims 2, 7, 13-16, and 18038 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on April 20, 2006.

3. Claims 1, 3-6, 8-12 and 17 are currently pending in this case. Claims 3 and 4 have been amended.

Priority

4. This application is based on and claims priority to PCT Application No. PCT/JP02/06955 filed July 9, 2002.

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

6. The information disclosure statement (IDS) submitted on July 9, 2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

Specification

7. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

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requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 3-6, 8-12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al (US 2001/0018736).

10. Regarding claim 1 –

Hashimoto discloses a central processing unit executing a program(e.g. abs, par 0004, 0078) comprising an encrypting unit encrypting a block (e.g. 0069, 0074) , and decrypting an encrypted block (e.g. par 0079, fig.2), wherein: a first private key is concealed in secrecy (e.g. par 0075); and said encrypting unit obtains from a first license a code decryption key for decrypting an encrypted block which configures a first program by decrypting with the first private key the first license of the first program (e.g. par 0074), which is encrypted with a public key pairing with the first private key (e.g. par 0075).

11. Hashimoto does not use the same terminology, as the instant application, "secret key" rather than "private key", but such differences in terminology do not confer patentability. It would be obvious to one of ordinary skill in the art to adapt terminology to suit the needs of the users.

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12. Regarding claim 3 –

Hashimoto discloses a central processing unit according to claim 1, further comprising a tamper resistant buffer that a user cannot reference or falsify, and wherein the code decryption key is recorded to said tamper resistant buffer. (e.g. par 0069, 0070).

13. Regarding claim 4 –

Hashimoto discloses a central processing unit according to claim 3, wherein: the first license includes an access condition used when an execution process of the first program accesses a memory region; a Translation Lookaside Buffer recording an address of the memory region, at which the encrypted block which configures the first program is recorded, and the access condition to the memory region; a memory managing unit, the cache, and a processor core (e.g. par 0066); wherein said TLB and said tamper resistant buffer are linked; wherein said memory managing unit obtains the access condition to the memory region from said TLB based on an address of a memory region, at which an encrypted block is recorded, and further obtains the code decryption key corresponding to the memory region from said tamper resistant buffer (e.g. par 0070); wherein said processor core determines whether or not an access to the memory region is permitted to be made from the execution process based on the access condition obtained by said memory managing unit, and the access to the memory region is made from the execution process if said processor core determines that the access to the memory region is permitted to be made (e.g. par 0066); and wherein said encrypting unit writes to said cache a code obtained by decrypting the

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encrypted block within the memory region with the code decryption key obtained by said memory managing unit (e.g. par 0075).

14. Regarding claim 5 –

Hashimoto discloses a central processing unit according to claim 4, wherein the code decryption key and the encryption key used to encrypt the encrypted block are a same key (e.g. par 0049).

15. Regarding claim 6 –

Hashimoto discloses a central processing unit according to claim 4, wherein when a memory region accessed from the execution process of the first program switches from a first memory region to a second memory region, said memory managing unit further determines whether or not a code decryption key corresponding to the first memory region, which is obtained from said tamper resistant buffer, and a code decryption key corresponding to the second memory region match, and an access is made to the second memory region from the execution process if said memory managing unit determines that the code decryption keys match, or the access to the second memory region is not made from the execution process if said memory managing unit determines that the code decryption keys mismatch. (e.g. 0094).

16. Regarding claim 8 –

Hashimoto discloses the central processing unit according to claim 4, wherein: a different data encryption key is recorded to said tamper resistant buffer for each code decryption key; said encrypting unit records data within said cache to the memory region that is corresponded to the data decryption key by said TLB after encrypting the

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data with the data decryption key when recording the data to the memory region, and writes encrypted data within the memory region to said cache after decrypting the read data with the data encryption key when reading the encrypted data within the memory region (e.g. par 0050).

17. Regarding claim 9 –

Hashimoto discloses a central processing unit according to claim 8, wherein when data obtained by executing a first code is used by a second code, said processor core sets said TLB so as to provide the second code with an access right to a memory region to which the data is recorded, and also sets said TLB and said tamper resistant buffer so that the second code uses a data encryption key for encrypting the data when reading the data from the memory region (e.g. par 0090).

18. Regarding claim 10 –

Hashimoto discloses a central processing unit according to claim 4, further comprising: a register; and a register access control table for performing access control for said register, wherein said processor core controls sealing and release of said register with a sealing flag within said register access control table (e.g. par 0145).

19. Regarding claim 11 –

Hashimoto discloses a central processing unit according to claim 4, wherein when contents of said TLB is recorded to a page table within an external storage device, said encrypting unit affixes a signature to the contents to be recorded, and verifies whether or not the signature is legal when contents of the page table is captured into said TLB. (e.g. par 0147).

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20. Regarding claim 12 –

Hashimoto discloses a central processing unit according to claim 3, wherein when contents of said tamper resistant buffer is recorded to an encryption key table within an external storage device, said encrypting unit encrypts the contents to be recorded. (e.g. par 0147).

21. Regarding claim 17 –

Hashimoto discloses a central processing unit according to claim 3, wherein: said tamper resistant buffer records unable-to-output information indicating whether or not to output corresponding information within said tamper resistant buffer to an outside of said tamper resistant buffer, and cache lock information indicating whether or not to output corresponding information to an outside of said cache; and a move of the first license between the first program and a different program is managed based on the unable-to-output information and the cache lock information. (e.g. par 0180).

22. Examiner's note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may be applied as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Conclusion

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23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cristina Owen Sherr whose telephone number is 571-272-6711. The examiner can normally be reached on 8:30-5:00 Monday through Friday.

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell can be reached on 571-272-6712. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

25. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

COS, 07/07/06

Cristina Owen Sherr
PRIMARY EXAMINER